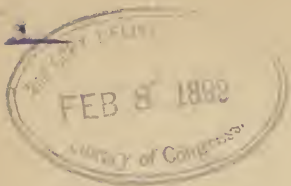


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BY INVENTION*

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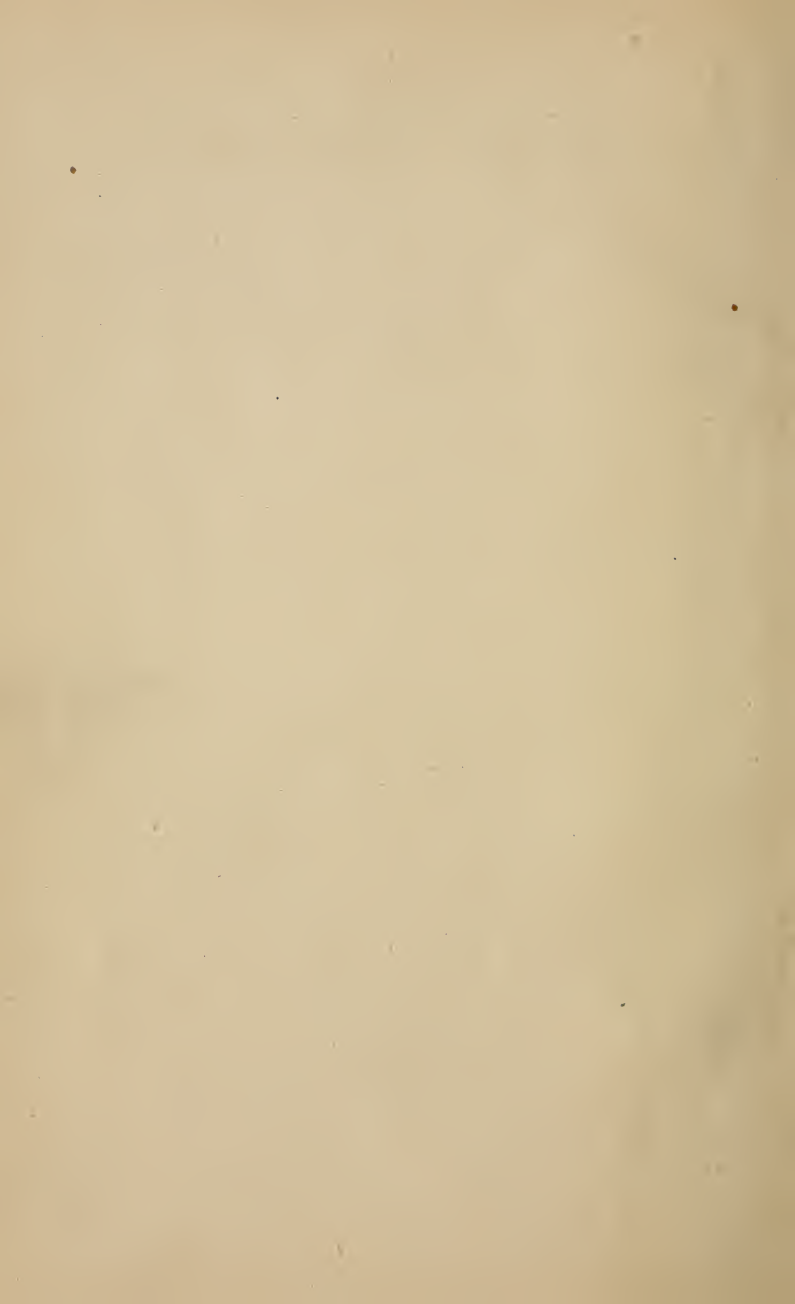
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UNITED STATES OF AMERICA.

JAN 26 1899

JAN 26 1899



HOW TO MAKE MONEY

BY

„INVENTION„



BY

A. E. GLASCOCK.



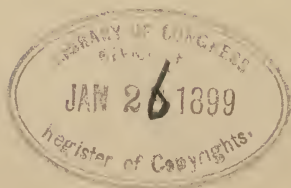
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MOTHER SHIPTON'S PROPHECIES.

Published in 1485.

Carriages without horses shall go,
And accidents fill the world with woe.
Around the world thought shall fly
In the twinkling of an eye.

Waters shall yet more wonders do
Now strange, yet shall be true.
The world upside down shall be,
And gold be found 'mid roots of trees.

Through hills and mountains man shall ride,
Nor horse nor ass be at his side.
Under water man shall walk,
Will ride and sleep and talk.

In the air men will be seen,
In black, in white, in green.
Iron in the water some day will float
As easy as a wooden boat.

Gold shall be found 'mid stone,
In a land that's now unknown.
Fire and waters will more wonders do,
England will at last admit a Jew.

INTRODUCTION.

There are two classes of persons to whom these pages may afford information and to whom they are chiefly addressed, viz., the person who for the first time conceives that he has made an invention and who is actually desirous of benefiting himself thereby; and the patentee who is anxious to render his newly-acquired privilege profitable.

When a man has made what he considers to be a discovery or invention, he intuitively feels that to derive any profit from it, he must secure a patent for it; but there his acquaintance with the subject ends—commonly he is at a loss to know what course to pursue. To solve the perplexities, he probably consults the best informed among his friends; and when, as generally happens, the most conflicting and contradictory opinions are given, he ends by taking his own course, which is not always the best under the circumstances. Now, the success of a patent, like that of a book, depends much on the manner in which it is presented to public notice. As in the case of the one there may be sound sense, logic and talent disfigured by a bad style of writing, or hidden in a cloud of language; so in the other, there may be good and practical improvements but so unsuccessfully set

forth as to appear theoretical and chimerical. The patentee, like the author, addresses himself to the public, from whom he expects support, and as a book depends for its fame much on its attractiveness, so in a like manner does a patent. To pursue the parallel it must be said success depends in both cases on merit, but that quality will be best appreciated when displayed to the best advantage. The patentee, who has recently acquired his grant from the Government, has, to some extent at least, marked out his course.

He has already put his head to the plow, and must not look back. The field is before him, which, by cultivation may yield good returns; but although he may have sown good seed, care will be requisite for bringing it to perfection. The author of these pages makes no other pretension than that of attempting to give to his readers the best information regarding the subjects written on that his experience dictates. He presents no nostrum to make all patents profitable and has no alchemy at hand to transmute old ideas and schemes into subject-matter for new and profitable patent privileges.

The work of searching into the novelty of inventions is one of great responsibility we all know. Although an Inventor may satisfactorily make his own search, he will not, if he possesses an ordinary amount of prudence, meddle further with the proceedings necessary for obtaining his patent.

Lord Saint Leonard once said that the best clients the lawyers had were the men who made their own wills—these home-made documents leading to endless litigation among the deceased's testator. It cannot be said that self-drawn specifications are prolific of fees to counsel because the men who prepare their own specifications have seldom genius enough to invent anything valuable and only valuable inventions are infringed; but this much is certain that such specifications are almost necessarily worthless and consequently they leave the door open to infringers, should it turn there is anything in them. But it is when a patentee wishes to grant a license or to sell his right that he discovers the impolicy of having acted without professional aid. For when a manufacturer entertains the idea of taking a license from a patentee or of purchasing his rights, he will (if a prudent man) consult his legal adviser and the professional man will conceive but a poor opinion of the validity of a patent, the specification of which has been drawn by an amateur. The solicitor in such a case would send the document to a patent attorney with instructions to inquire into its validity, who would, without much difficulty, pick it to pieces. If an offer was made of the grant of a free-hold site upon condition of erecting on it a properly-constructed dwelling house, would not this grantee be extremely careful to comply with the condition? So with patents: The condition of tenure in the

patent is the erecting on it a substantial super-structure.

After having secured a patent which protects the Inventor to the fullest extent, the next problem that naturally confronts him is how to make money by the invention. There are many ways by which this is done and it is the object of this book to relate, as nearly as possible, the steps taken by Inventors who have profited by their inventions with the hope that the example thus set may be of use to those who seek to profit thereby. As before stated, it is not claimed that this work will make every invention valuable, but if it succeeds in leading a very small per centage of Inventors in the right direction, it will have accomplished its object. However, it is believed that there is no patented invention in existence to-day but what, if it is properly handled, it might be made to pay at least something; for time and again inventions which, to the casual observer, have seemed to be most frivolous and visionary, have in the end proved to be very valuable. Therefore, no rule can be laid down whereby the value of an invention may be determined in advance of an actual trial of the device, and opinions on this subject amount to very little, the true test of the value of an invention being the amount of money that it will command after it has been developed.

CHAPTER I.

How to Make Money by Invention.

The faculty of invention, one of the noblest attributed to man, pre-eminently distinguishes him from all other created beings—for they, animated by instinct, are incapable to deviate from the ways of their progenitors; but man is perpetually devising new modes and forms of action; and the more he invents, the more he seems to be capable of inventing. It is to the exercise of this faculty of the human mind that we owe our advanced state of civilization; without inventors we would still be in a state of semi-barbarism. Muirhead, in his life of Watt, remarks: "The respect which in all ages and countries has ever been paid to inventors seems indeed to rest on something more profound than mere gratitude for the benefits which they have been the means of conferring on mankind, and an implied, that it does not express, a consciousness that by the grand and original conceptions of their minds they approach slightly more nearly than their fellows to the qualities and pre-eminence of a higher order of being." "The dignity," says Lord Bacon, "of this end of endowment of man's life with new commodity appeareth by the estimation that antiquity was made of such

as guided thereunto; for whereas founders of states, law givers, exterpators of tyrants, fathers of the people were honored but with the titles of demagogues; Inventors were ever sacred among the gods themselves." We have of late recognized the claims of Inventors to national honors in several living instances, and this is better than awarding posthumous praise, but we are still backward in this respect, and the chief reward which the Inventor can truly rely upon, is to be derived from a grant of Letters Patent.

The gift of invention is indeed one of the most exalted gifts of man; and when we trace modern civilization with the barbarism of savage life, we must know that all the arts which minister to our wants and conveniences are due to Inventors. But for them we would still paddle in canoes, cover our floors with rushes and go to battle armed only with the spear or cross-bow. For those arts which have placed conveniences and luxuries within the reach of the poorest classes which were unattainable formerly even by the rich, we are indebted to Inventors. Neither has the art of war been still to the valuable attempts of the Inventor. If the invention of gunpowder, as we all know it did, completely revolutionize the art, the ingenuity of inventors in the operation of warlike instruments has effected almost as great a change since the days of Gettysburg. Great benefits, it is true, have been derived by the introduction of steam,

steam navigation, the paddle, screw, power loom, the locomotive, the electric telegraph, the submarine cable, photography, and phonography; war has been shortened and made more decisive by the use of improved arms of precision—the Springfield, Remington, Krag-Jorgensen, Martini-Henry, and Mauser Rifles, together with the Armstrong, Whitworth, Gatling, Driggs-Seabury, and Sims-Dudley ordnances—and by the introduction of a variety of powerful projectiles, but it is safe to say, a new era of invention is now upon us. While necessity is not always the mother of invention, it is an ever stimulating agency in its development; and the limit is not yet reached—the exigencies of the hour will turn genius to war-like things. Take the Navy, for instance.

According to "The Engineering News," although the French ship, *La Gloria* (with 4½ inches of rolled iron plates on a heavy wood backing), had been launched two years previously, the memorable battle between the *Monitor* and the *Merrimac*, in Hampton Roads (March 9, 1862), was the first actual combat between armored ships. The previous destruction of wooden war ships by the iron-clad proved to the world that the long-boasted "wooden walls" were powerless in the face of an adversary of that class, and England, France and other nations at once began that struggle between armor plate and guns which has resulted in the present wonderful development and power of ships

of war. Many failures marked the path of this advance; but it is possible that the limit has about been reached in the building and armament of these terrible engines of war. The displacement of these ships has reached 14,000 tons and more; 18 inches of a high quality of solid steel armor protect the vital parts; guns of 13-inch caliber throw projectiles with a muzzle velocity of 2,400 feet per second; high explosives are employed in shells and torpedoes, and engines of 10,000 horse-power give these heavy hulls a speed of 17 knots or more. Guns and ammunition are now so heavy that machinery must be employed for handling them, and electric power and electric light find place in the equipment along with many minor applications of the latest developments of the science of war. Even with all the advance in the treatment of materials and the resultant cheapening of the product, the cost of these ships is now enormous, as is shown by the fact that within the last sixty days three great nations have appropriated \$240,000,000 to be expended upon their navies.

The exigencies of the civil war produced the Monitor and the Merrimac, and undoubtedly hastened, if they did not compel, the changes in the building and arming of warships which have taken place within the last thirty odd years. It would be a strange coincidence if a somewhat similar emergency should now bring about an American development of another type of vessel that would

destroy these same great battleships, and stop the expenditure of money upon them from mere commercial considerations. The advent of a thoroughly manageable submarine torpedo boat, fitted for operating in comparatively deep water, and capable of effectively delivering torpedoes or dynamite projectiles, will settle the question of battleship attack upon the ports of a country. The certainty of destruction would be so great that no nation could afford to invest five or six millions in an armored battleship that may be sunk by a vessel costing so little that a fleet of a hundred of them could probably be built for the price of one battleship. The idea itself is as old as the days of James I of England, and late experiments by France, Spain and Germany, have been failures. But we again have faith in the same American inventive genius that caused such an upturning of methods, following the events of 1862, and late trials with the Holland submarine torpedo boat would seem to warrant the presumption. The Inventor of to-day has great advantages over his predecessors, in improved methods of construction, compressed air, storage batteries and gasoline fuel for surface work; and while the problem is many-sided and difficult, it is by no means impossible of solution, and an urgent demand for the services of such a vessel would mean its ultimate successful development.

What a revolution in naval warfare such a craft

would bring about! It would practically abolish three of the most advanced types of warships, the battleship, the torpedo boat, and the torpedo boat destroyer. The first of these brought out the second as a means of attack upon the battleships of the enemy; and the third was introduced as a defense measure against the second. The fast, lightly-armored cruiser would probably be left as a commerce defender, but against this type of ship the torpedo is practically useless, hence, there would be practically no further use for torpedo boats. It is difficult to see what measure of defense could be devised against such an unseen submarine, but powerful enemy; and to find and attack this under-water craft with another vessel of the same type would be practically impossible, and add an additional element of terror to a warfare that is terrible enough as it is. The Holland boat is intended not only for attack upon the hull of a ship by automobile torpedoes, but she is fitted to hurl dynamite projectiles both above and from below the surface. She has thus three separate means of attack, and a successful hit by any one of these projectiles would mean the certain sinking of the vessel attacked. The great value of submarine boats as a means of defense would be their cheapness and rapidity of construction, and the ability to thus attack in a swarm, with the chance of escape for the enemy correspondingly small. But if battleships cannot attack a fortified

port, cruisers certainly could not, and submarine torpedoes or short-range dynamite projectiles would be useless against land works armed with modern high-power guns. This assumption would confine naval battles between heavy ships to the high seas, and from a political point of view the result of such a battle would be valueless; and the submarine boat might even be so developed as to enter into combat of that nature by being carried to the vicinity of the scene of combat on the cruiser. So it may again be said that the man who invents and builds a workable submarine torpedo boat will as surely drive the battleships and their dependents from the naval lists of the world as the advent of armor-clads and rifle-guns made useless the ships of Nelson's time. The navy has been reconstructed several times since the days of Perry, and owes still more to Inventors than even the other branch of the service. It is but a few years since the admiralty timely permitted the use of steam in the navy as an "auxiliary power." Now comparatively few ships are built to sail only, and it might almost be said that honored is the auxiliary power. Notwithstanding the agitation of armor-building and of turreted ships, the navy seems to invite and demand still further efforts of inventive genius to solve problems which perplex the best of our naval architects and engineers; much remains to be discovered, and further improvements have yet to be made in con-

nection with screw propulsion. Much as we are indebted to Inventors for the past and present, it may be said that we are still absolutely dependent on them to maintain our position in the future. The power, pre-eminence, and wealth, mainly acquired by inventions of Watt and Arkwright need to be replenished by further great discoveries or by opening up of new manufactures, otherwise it is to be feared this nation will enter upon an era of decadence. Wealth and luxury, it is true, abound; but they abounded in the latter years of the Roman Empire.

In many of the manufacturing arts where for fifteen years the European countries have been pre-eminent; through the ingenuity of the American Inventors, we now excel. This is owing to the fact that we pay more attention to the technical education of our people, and as a result of our excellence in these arts we are now outstripping many of the European countries in these branches of trade. We have many Inventors who equal in originality and usefulness of their ideas those who flourished in the last century and our Inventors are responsible for more good for the general welfare than armies or navies can ever effect. We excel in those arts which improved the dwellings of the workman and add to his comfort, and in those arts which should freight our ships to the utmost parts of the earth and which profitably employ our abundant population. These triumphs which were

made possible by Inventors we claim as our own.

If we do not, after the manner of the ancients, reverence our Inventors, we occasionally award them honors and accrue to them the more substantial reward of wealth. To Watt has been erected a suitable monument in Westminster Abbey; with one of the most appropriate epitaphs ever placed on a tomb, written by Lord Bacon and commencing with these words: "This monument was erected, not to perpetuate a name which must endure while peaceful arts flourish, but to show that mankind have learnt to honor those who best deserve their gratitude." Fitting words in praise of one who, as Sir James Macintosh said, "must be placed at the head of all Inventors in all ages." In England three descendants of Inventors have sat in the House of Peers: Earl Dudley, a descendant of Dudley, an Inventor in iron manufacture; Lord Foley, a descendant of Foley, another Inventor in iron making; and Lord Belfour, descended from Jedediah Strut, patentee of the Stocking Frame. Of Foley, who was one of the originators of the iron manufacture, the following story is told:

He commenced life about two centuries ago as an itinerant musician at Stroubridge and was formerly known as Foley, the "Fidler." Hearing that the Swedish iron masters had a machine for splitting iron into bars and braces, which in England was most laborously performed by hand, and that

the construction of this machine was a secret jealously guarded, Foley set off one morning on a bold and ingenious expedition. He "fiddled" his way to Hull, worked his passage across to Stockholm and thus by aid of his violin, invaded the Swedish iron district. Here like a true disciple of Orpheus, he so charmed the iron workers that they admitted him to the very mills he had gone expressly to see; and while his fingers were busy with his instrument, his eyes and head were at work mastering all the details of the machine. In due time the long-lost fiddler again turned up in Stroubridge, and by the prudent use of the secret he had thus sedately won, effected almost a revolution in the English iron trade, accumulated a large fortune and founded a family.

If we investigate the history of manufactures in England during the last one hundred years, we shall find that the tendency of patents has been to foster and encourage art, and that the patentees who are almost always identified with manufacturers, have been highly successful and largely remunerated by means of their patents. The same is equally true in the United States.

The influence of patented inventions is most strikingly shown in the creation of new industries of enormous magnitude since 1880—that is, within the term of patents now in force or but very recently expired.

Of these new industries the most noted are those

directly connected with the development of electrical inventions. The manufacture of electrical apparatus and supplies began to be of importance shortly before 1880, and in that year seventy-six establishments, employing 1,271 persons, and producing an output valued at \$2,655,036, were in existence. In 1890, the number of establishments had increased to 189, employing 9,485 persons, and producing an output valued at \$19,114,714. In the electric light and power industry, as reported in 1880, there were but three establishments in the United States, employing 229 persons and producing an output valued at \$458,400. At the close of 1894 there were in the United States, 2,124 central stations supplying electricity for light and power, and 7,475 isolated plants, a total of 9,599 establishments. The capital invested in these central stations is stated to have been \$258,956,256, and the capital invested in the isolated plants, though not stated, was probably not below \$200,000,000. A conservative estimate of the number of persons employed at that time in this industry would not be under 45,000. The use of electricity for power purposes has found its most notable development in the electric railway. The first electric street railway in the United States was put in operation little more than ten years ago. In 1880 of the 2,500 road miles of street railway in the United States nearly all used animal power. The total mileage of electric railways in the United

States up to October of 1897 was 13,765 miles out of a total mileage of 15,718, of which but 947 miles were horse-car lines. The total capital invested was \$846,131,691.

The telephone in 1880 was just beginning to be commercially known. At the close of 1896 there were in the United States 967 telephone exchanges, and 832 branch offices, using 536,845 miles of wire and employing 14,425 persons. The total amount stated to be invested in telephone property in 1895 was \$77,500,000.

The great development of the bicycle industry has come since 1890 as a result of the inventions in pneumatic tires made about that time. In 1890 there were reported as engaged in the manufacture of bicycles 27 establishments. In 1895 more than 200 establishments were engaged in the manufacture of cycles, and the output of wheels for that year is stated to have been not less than 800,000. The product in 1897 was over 1,000,000 wheels. In 1880 a large proportion of the cycles used were imported, mainly from England. In 1897 the exports of cycles and parts of cycles to England amounted to a value of \$2,128,491, and the total exports amounted to a value of \$6,902,736.

It may appear to be supererogatory to insist on the fact that patents for inventions have been largely remunerative; practical men engaged in manufactures all know this well. Some years ago a few optimists vigorously called for the abolition

of patent rights and their chief argument was that patents were unremunerative to Inventors. They based the fallacy on the premise that because some patents are unremunerative, because some Inventors have been ruined, because some patents have been litigious, therefore patents ought to be abolished. Since that time, however, many who were in favor of abolishing all patent rights have shown their appreciation of it by obtaining patents for their inventions. Let it be granted that many trivial and many absurd ideas are unfortunately patented, let it be conceded that many Inventors have wasted their substance over impractical schemes, yet we shall find the great bulk of inventions which pass the Patent Office are for useful articles of manufacture or machinery, and that the majority of patentees, if they do not acquire wealth, amply repay themselves for their outlay and labor.

The patent system has stimulated inventive thought. Benjamin Franklin, a man of science, stood by the side of the old hand lever printing press for a generation, and left it where it was left three centuries before by Guttenburg. It remained for Hoe and other Inventors, who worked under the stimulus of the patent laws and patented their inventions, to produce that marvelous machine for disseminating knowledge that has made the world a university. A century ago the apprentice learned the skill and secrets of his craft and jogged along contented with his requirements. To-day no

workman expects to leave his craft or calling without lifting it to a higher plane and providing it with better instrumentalities. A new power of achievement has come into human thinking. Men of all callings seem to have acquired the faculty, and no explanation of the change is plausible which ignores the stimulating influence of a century of patent law.

The patent system has stimulated men to transform their thinking into things. It is a long and toilsome road from the first fugitive suggestion, through failure and discouragement and temporary defeat, to an invention in a form perfected. If men were not induced by the rewards of a patent system to cling to their new ideas through all the vicissitudes of an Inventor's experience their hands would drop in discouragement. The story of the lost arts has never been told, even by Wendell Phillips, and decades and centuries of possible progress have been wrapped up in inventions which have dawned upon the human conscience only to disappear and be forgotten.

The patent system encourages men to disclose their inventions. The duty of men to disclose their discoveries is one which, if it exists at all, has never been recognized. It is not so, however, when patent laws prevail, and for a hundred years men have hastened to share with the public their newly acquired ideas because of the invitation contained in the patent system, and the phenomenon

of rediscovery is now a very rare experience.

The patent system enables Inventors to make their efforts fruitful, and saves them from the folly of misdirected labor. The Official Gazette of the Patent Office publishes to the world the claims and one or more drawings of each patent. Each number of the Gazette may be likened to a series of maps, exhibiting that borderland adjacent to the illimitable unknown upon which the sun of human invention has shed its radiance, while clocks and watches have registered a week of time. Inventors need not and do not, as formerly, delve in exhausted mines.

If any proof were needed of the utility of inventions, or profits which towns derive therefrom, one has only to turn to the history of such cities and towns as Pittsburg, Chicago, St. Louis, Boston, Lynn, to acquire ample evidence that prosperous towns are the efforts of manufacturers, who are either themselves Inventors or become the users of inventions. Most of the cities of our flourishing manufacturers were less than a century ago, comparatively unknown and unpopulated. Before Pullman established those gigantic factories which became necessary for the working of his inventions, the town of Pullman was unknown.

It is quite true some Inventors have been quite unsuccessful, some utterly unfortunate—some by circumstances beyond their control, but many by their own waywardness or want of thrift.

Many of the causes of failure have been purely personal, arising from a flitiness of disposition which sometimes masters Inventors. Such men were inconsistent in their pursuits, irregular in their conduct, and consequently unsuccessful in their career. They perhaps resemble the hare in the fable, and suffered the tortoise to outstrip them in the race. Perhaps it was very misfortunate to have stopped short in their efforts, when perseverance would have insured success. Such was the case with Paul and Wyatt, who, thirty years before Arkwright, Inventor and patentee of code of spinning by rollers, which, in the hands of the latter, produced such prodigious results. They seem to have abandoned the project after a brief struggle with difficulties. Arkwright persevered and overcame all difficulties. Others have been undoubtedly the victims of combinations of manufactures formed to resist their claims. Heath, the improver of steel manufacture, was cruelly oppressed in this manner. The trade of Sheffield combined to contest his patent and finally ruined him by expensive litigation. Nothing could be alleged against his character and he must be regarded as a victim to an unjust conspiracy.

Happily such instances as these are rare. In recent times, whenever manufacturers have combined to resist the claims of patentees they have been signally defeated. This was the case in England with the iron masters who locked to-

gether to resist Neilson, the Inventor of the Hot-Blast process of smelting iron; and with the Millers, who associated themselves together to contest the validity of Boviel's patent for grinding grain, and who, after an outlay of £40,000 were utterly defeated. So again there was recently a combination of users and mixers formed to dispute the validity of a patent for a well-known mowing machine and the patentee utterly routed them with enormous loss to themselves. There seems to be implanted in the breast of all great Inventors an indomitable spirit which generally enables them to overcome all obstacles. The Inventor who does not feel that he possesses this invincible self-will, must endeavor to acquire it, always assuming that his invention is worth contending for. It was this strong will that enabled some to brave death itself in the effort to carry out their projects. The struggles of Palissy, the potter, in his endeavor to discover a good vitreous enamel, have formed the theme for many a tale; how in sheer despair, he over and over again destroyed his furnaces, and commenced afresh his tedious labors. Lombe risked his life when in disguise, he visited the Italian silk factories, in order to acquire a knowledge of silk-throwing machinery, which he afterwards introduced in England to so much advantage. Arkwright overcame difficulties sufficient to daunt the strongest will. He was only a poor country barber and was compelled to neglect his

business in order to complete his models and experiments. His wife became so exasperated by his indifference to his legitimate business that, in a fit of passion, she destroyed all his models, which to him and to the world were of priceless value. Notwithstanding he persevered, and despite all opposition, established the value of his ideas and lived to become high sheriff of his county, and to accumulate an enormous fortune.

The man who brought us, many years ago, the ordinary cleanliness and civilization of using forks became the object of an absolute persecution. His innovation was taken in the worst possible spirit by English society which worked itself into a rage of contemptuous indignation that seems well nigh incredible to us. He was sneered at in society, satirized on the stage, rebuked from the pulpit, and reproved by grave writers. The same experience befell the first man who used in England another convenience that is now universal—the umbrella. Its use was considered unmanly and in the middle of the eighteenth century, Jonas Hanway, who carried and used an umbrella, was mobbed in the streets and called after by small boys.

The idea of electric telegraph was conceived by Samuel Morse while on a sea voyage to New York. He unsuccessfully endeavored to obtain a patent upon his conception in England, but was awarded a United States patent in 1837. After perfecting

a model, he exhibited the working results to Congress with the hope of procuring assistance from the Government in order to bring it to a practical issue, but he struggled along unsuccessfully and in poverty until the year 1843, when, as he had almost yielded to despair and abandoned his invention, Congress at midnight and during the last minutes of the session appropriated \$30,000 for an experimental line between Baltimore and Washington. Since then the electric telegraph has been an assured thing and has been one of the great factors in forming a modern civilization and advancing the world's prosperity.

Every invention that is now in practical use, the telegraph, telephone, typewriter, railroads and electric cars, were the results of theories held by their Inventors. All scientific men are necessarily theorists. Their researches are pursued on undefined ideas—their discoveries are the results of their theories. Very often when one of these people advance a theory that appears to be extravagant, the public laughs at it, but when it is demonstrated that the theory can be reduced to practice and that it will be valuable to mankind, we cease to laugh and admire.

George Stevenson's project of propelling carriages by steam on iron rails met with similar obstructions and when a bill was introduced in the English Parliament to provide for the construction of an experimental road, Sir Isaac Coffin de-

nounced the project in the following terms :

“Railroad trains would take many hours to perform the journey between Liverpool and Manchester and in the event of the scheme’s success, what, he would like to ask, was to be done for all those who had advanced money in making and repairing turnpike roads? What was to become of coach-makers, harness-makers and coachmen, inn-keepers, horse-breeders, and horse-dealers? Was the House aware of the smoke and noise, the hiss and the whirl which locomotive coaches passing at the rate of ten and twelve miles an hour would occasion? Neither the cattle ploughing in the fields, or grazing in the meadows could behold them without dismay. Iron would be raised in price, or more probably be exhausted altogether. It would be the greatest nuisance, the most complete disturber of quiet and comfort, in all parts of the kingdom that the ingenuity of man could invent.”

Even Edison, the wonderful wizard of modern times who produced many valuable inventions whereby the world has been electrified, his patents at present being numbered by the hundreds, in his initial steps met numerous embarrassments and obstacles and not until shrewd capitalists realizing the amazing possibilities of his conceptions took interest in his patents and advanced the necessary capital, did his wonderful inventions prove successful or remunerative to him. All of which

goes to show that in many instances valuable inventions are conceived that are far ahead of the time in which they are produced, and when this is the case the Inventor has before him the difficult task of compelling the public to investigate and ascertain the merits of his invention in order to insure its successful introduction. This task of itself is by no means easy, and when it is coupled with other duties apparently insurmountable, the situation of the Inventor is not at all times enviable. The fact remains, however, that the inventions that have done most to revolutionize the arts and sciences of the world have been produced and been introduced under just such circumstances, and the facts will ever remain the same for the appliances of modern times will be changed and effected only by the Inventors who encounter and overcome such obstacles as were thrown in the way of Stevenson, Morse, and Edison.

If we turn to the history of great statesmen, great warriors, or of men who have founded great commercial houses, we shall find that they one and all possessed a strong will and strength of purpose which enabled them to overcome the difficulties which came in their way.

Napoleon remarkably illustrated this force of character when he said he found no such word as "impossible" in his dictionary. More assuredly that when a man is gifted with high inventive powers, he will almost invariably possess those

qualities requisite to enable him to bring his discoveries to a profitable and practical issue.

Professor Morse tells a story of his early struggles. When he was in Washington employing all his energy to obtain an appropriation from the Government to erect a line from Baltimore to Washington, he had his instruments at each end of the capitol to demonstrate to the members of Congress the feasibility of the plan. He says: "I talked to them, explained the working of the instrument, hour after hour. I gained many adherents; still I saw that many were yet incredulous, and many even scouted at the idea as preposterous, and pronounced my instrument the toy of a crack-brained enthusiast. It was toward the close of the session, there were still about two or three hundred bills yet to be passed before they came to mine. It was late at night, and finally I gave it up in despair, and I left the Capitol building with a sad heart. I was bankrupt, having expended all that I had on my discovery. I walked down the Capitol steps with fifty cents, all I had in the world, and a more disconsolate individual it would be hard to find. After a wakeful night, I arose in the morning, found my bill passed, and a new era in the history of science commenced. "They that sow in sorrow shall reap with joy."

The ordinary modes of what is called "making money" are prosaic, although sure. They invite the exercise of much industry accompanied by in-

tegrity and perseverance. The tradesman who expends less than he earns, may, in the course of time become a capitalist. The foreman may, after the lapse of years, come to be a master, and the steady apprentice may, in due season, rise to the splendid dignity of mayor of his native city. This is all as it should be, for in the ordinary course of life neither fame nor fortune is to be acquired at a jump. Notwithstanding there are exceptional ways of acquiring a place in the Temple of Fortune, whereby a man suddenly finds himself enriched. Sometimes it is by means of an investment in mining shares, or by a fortunate contract, or what is called a speculation in wheat or stocks. These and numerous other modes of acquiring wealth are more or less hazardous, and are not comparable to the safe means by which the same end may be attained by a patent. For all the ways above indicated depend on circumstances quite beyond the control of the Inventor, or speculator. Whereas a patentee has his expenditure and his risk under his own control. To obtain any appreciable result in the one case, a man must speculate with a considerable sum of money; by an expenditure of a few hundred dollars on a patent, an Inventor may and frequently does realize thousands. The privileges conferred by means of a patent are more frequently undervalued than overestimated.

CHAPTER II.

Patents.

A patent practically involves the grant of a monopoly for seventeen years, with the power to license or use the Invention to an unlimited extent. There is no other privilege known to the law of this nation which is so important. Neither the Executive or the legislature can confer like privileges and advantages to any person than the Patentee of an invention. If there be any analogous grant it is that of an Act of Congress for a railway franchise, and then the analogy is not complete, for every railway company is bound to use the line upon specific terms. The Patentee can inpose such terms as he pleases for the use of his invention and is bound in no respect. It is true he can force none to make use of his invention, but he has only to show the advantage which must flow from its adoption to insure its being used. The force of competition is so great in trade in the present age that when a cheaper or better way of manufacturing an article can be shown, it is generally eagerly sought for. Want of success must arise for want of energy or tact. If wanting capital itself, a Patentee must generally call capital to his aid, provided his Invention possesses intrinsic and undeniable value.

There is no country in the world where patents are so highly valued and are so lucrative as in the United States of America, where there are 24,000 applications for Patents in a year, of which about 20,000 are granted. That is more by 600 per cent. than is granted in England. One of the great causes of the successful working of Patent Inventions in the United States is the mode adopted of granting licenses for the separate cities and states. An American Patentee, if he manufactures the article, will not put the article on sale in the ordinary way, but grant a license to a vendor in every city in the state for the exclusive sale of the manufacture, sometimes with power to grant sub-licenses. These are not licenses to manufacture, but simply licenses to sell retail or wholesale. For such privileges American shopkeepers are readily found to pay amounts varying from \$500 to \$5,000 and the nature of the result to a Patentee is highly profitable, while the guarantee the shopkeeper obtains is the monopoly of the selling of some attractive article of merchandise. All Patentees, who, by giving licenses to sell for a small consideration, derive much profit. As an illustration of the severity of American Law against infringers, the following case may be quoted:

“In New York City, on the 1st of January, 1871, Judge Blatchfield ordered a decree in favor of R. A. Tilgham, of Philadelphia, against Roland Mitchell, for \$229,000 for infringement of his acid and glic-

erine patent. This is the largest decree for infringement of patent ever granted in New York. Generally, then, it may be asserted without fear of contradiction, that patents are the only safe means by which wealth may be acquired exceptionally. What to-day is a mere idea, a suggestion, a thought, which without protection, is at anybody's service, becomes to-morrow by virtue of the grant, a property which no one can invade with impunity, a property capable of returning even a princely income, which may be enjoyed for seventeen years with the certainty that its results will reach far beyond that term; for whenever there is value in an invention, the good-will, so to speak, it brings to its owner, lasts longer after the expiration of the term of the patent. Many, indeed, it might be said nearly all, or most of the great business enterprises owe their origin and their continued prosperity to the fact that the founder was a Patentee. When a manufacturer acquires celebrity for a patented article, the public will continue to resort to his house long after the expiration of the patent even although competitors should arise, and after the goods have become common articles of trade. A prestige appertains to the first manufacturer which invariably gives him pre-eminence over his rivals—in this respect the value of a good patent is incalculable.

When a manufacturer who has been successful working an invention, finds that his term of patent

right is about to expire, he so improves, if possible, the manufacture as to warrant his procuring another patent, and thus, although the market may be flooded with the original article, he will still alone possess the right to manufacture the improvement; and the fact of his obtaining a fresh grant will in most instances prevent others from interfering with him. There may be instances when this course will not be practicable, simply because the invention cannot be improved; but this will rarely happen. Almost every process and nearly every machine or mechanical arrangement can be modified, if not absolutely improved, and this to a extent sufficient to bring it within the grasp of the Patent Law; while with most vendible articles of merchandise it is always possible by the exercise of a little ingenuity, to improve and better. Thus may be engrafted on the old stock a new issue capable of bearing good fruit and of flourishing during at least another seventeen years, and in this time a manufacturer ought to be able to hold his own against all the world.

“Nothing succeeds like success.” When once a Patentee begins to be successful he will find the flow continuous and increasing. Mankind all the world over patronizes him who shows his talent by his works, when the momentum of success is once acquired its impetus is ever in an increasing ratio. But to insure success the Inventor must

commence right. He must make sure that he has invented something new and useful; then he must take proper measures to secure valid Letters Patent; and next he must enter upon a course of action best adapted to bring a return for his outlay of time, and it may be capital. In other words, he must have a good invention, he must properly secure it, and judiciously work it. To aid him in attaining these ends is the endeavor to show "How to Make Money by Invention." In every pursuit in life much depends on the proper commencement of work, whether it be the entrance upon studies for a profession, the application of a student to acquire science, or the apprenticeship of an artificer.

Therefore the judicious Inventor will instruct himself in the art to which his invention relates. Should he be practically unversed in it he will make himself acquainted with the matter and endeavor to understand the rights and privileges he acquires under Letters Patent. When a man conceives that he has invented something not before known or used, he should endeavor to ascertain whether in reality the invention be new and useful. For these are the cardinal points on which its value depends; these are also the chief legal requisites for the validity of a Patent. The law requires as the essence of the validity of a grant of Letters Patent that the invention claimed should be new and useful, and properly described in the specification. One of the first difficulties which

most Inventors experience is that of ascertaining the novelty of their conceptions. This is, of course, materially enhanced when, as it often happens, the invention hit upon is altogether foreign to the Inventor's ordinary pursuits. Of course when the invention relates to a process or manufacture in which the Inventor is well versed, there should be little or no difficulty in ascertaining its novelty. Few men of intelligence practice an art without knowing what is new and what is old in its details. But there are so many occasions in which men step out of their beaten track and, as they conceive, invent a novelty in some art in which they are not versed, that it may not be inopportune to offer a few suggestions on this subject. Whether or not the best inventions have originated from persons external to the art to which they are related may be an open question, but certain it is, many remarkable discoveries have been made by persons who had little or no previous knowledge of the subject. Watt was not educated as an engineer, but as a philosophical instrument maker. Arkwright, beyond residing in a manufacturing town, had not the slightest connection with machinery, being by trade a barber. Neither Ratcliff, Crampton, Hargrave, nor George Stevenson were skilled in the trades in which they effected such vast improvements. The Inventor of a great improvement in calico printing was a commercial traveller. Lee and Cartwright, to whom we are indebted for

improvements in the manufacture of lace and stocking webbing, were clergymen. Singularly the Inventor of naval tactics as practiced under the old regime, was also a clergyman; Berthollet, the Inventor of bleaching by the use of chloride, was a physician; Henry Cort, the improver of iron manufactures, was a naval agent; Paxton was not an architect but a gardener; Petitt Smith, who assisted greatly in the introduction of steam propelling, was a farmer; Sir Henry Armstrong was originally a lawyer. In endeavoring to discover the reason why men, previously unacquainted with the theory and practice of an art, should be able to improve it, we must take into consideration the fact that invention may be the result of intuition, of induction, of experiment, or of accident. Sometimes the mind of an Inventor intuitively perceives what is required to render (say) a machine efficient. This happened when Watt discovered that the then ineffective "fire" engine might be improved by condensing steam in a separate cylinder. This happy idea was purely an intuitive one, which was afterwards proven to be sound by experiment and practice.

It is this faculty of the mind which so often enables man to improve an art in which he has had no previous acquaintance, while those who all their lives have been practicing it fail to supply what is required. This may be said to be a precious gift—genius of the highest order. At

other times, Invention is the product of a process of inductive thought, long pursued it may be. Instances are not wanting where men have pursued an idea a whole lifetime, and at length have accomplished the end they had in view. To enter into an analysis of this process, would involve a psychological disquisition foreign to the purpose of this work. For the most part, chemical inventions result from experiments, but not a few have been discovered in this science as well as in mechanical art, by accident. It is said the invention of the anayline dyes was discovered by pure accident; and it is authenticated that the invention of vulcanized India rubber was due to the fact of some of that substance coming accidentally in contact with sulphur. In like manner the beautiful invention of glass is said to have been accidentally discovered by some travellers in the desert of Arabia when some alkali becoming heated on the sand, produced the vitreous matter. Unquestionably we are indebted for very many valuable discoveries solely to accidental causes, although at the same time much credit may be due to intelligent discoveries. Notwithstanding that numerous valuable inventions have been intuitively perceived or accidentally discovered, the fact still remains that most of them are brought to light by laborious study, application, and experiment; and the man of genius who sets himself to the task of inventing must resolve to work hard, rather than

rely upon happy thoughts or the results of accidents. Let him make sure, however, that what he is in search of is not contrary to the laws of mechanics or in direct contradiction to physical science; let him commence right with a good subject, and by ingenuity and perseverance he may accomplish all that he desires.

Thomas A. Edison is reported as having said:

“If you want a recipe to succeed as an Inventor, I can give it to you in a very few words, and it will do for any other business in which you might wish to engage. First, find out if there is a real need for the thing which you want to invent. Then start to thinking about it. Get up at 6 o'clock the first morning and work until 2 o'clock the next morning. Keep on doing that until something in your line develops itself. If it don't do so pretty soon you had better shorten your sleeping hours and work a little harder while you are awake. If you follow that rule you can succeed as an Inventor, or as anything else for that matter. It was the following of just such a rule that led to the invention of the electric light, the phonograph, and the kinetoscope.

“I believe that any person, even of the most limited capacity, could become an Inventor by sheer hard work. You can do almost anything if you keep at it long enough. Of course the man with a natural aptitude would get there first, but the other plodder would eventually gain his point.

The constant brooding on the one thing is sure to develop new ideas concerning it, and these in turn, suggest others, and soon the complete idea stands out before you. Above all things a man must not give up, once he has outlined his plan of action. A ball rolling down hill is sure to reach the bottom ultimately, no matter how many obstacles stand in the way. It is this principle which finally levels mountains. So, once fairly on your way, don't stop because of some seemingly impassible object in front of you. What you want may be just beyond your nose, though you do not see it.

"I once had that fact forcibly presented to me. I was working on an invention and finally reached that point when I could go no further. The thing lacked something, but, try as I might, I could not tell what it was. Finally I got angry with it and threw the whole thing out of the window. Afterward I thought how foolish the action was and went out and gathered up the wreck. In putting it together again I saw just what was needed. Repairing the broken portions suggested it, and it was so simple I wondered I had not seen it before. Now that little addition of the apparatus could have been ascertained by a little thoughtful experimentation. I suppose I found it out quicker because of the 'accident,' but that does not alter the moral of the accident.

"How do I go about inventing a contrivance? Well, that is hard to say. Everything requires

different treatment. First, as I said, I find out if there is a real need for a thing. Then I go at it and attack it in every way I can think out. This multiplied attack soon simmers down until I get what might be called a composite idea, something which is a combination of all that I have thought of before, or else the one feasible idea which seems to discount all the rest. Having once gotten started on what I think is the right track I keep up the pace until the goal is reached. The only thing, therefore, I can say to the young Inventor is to go ahead and do likewise. There is one piece of advice I can give, however. When a man starts to invent, let him do so with his mind free from all knowledge of what has been done already in the particular field he is investigating. For instance, if I am about to work out something, I never read up on it, nor do I inquire what has been done on it by other Inventors. Knowledge of this kind is almost certain to prove a snag in the path of the Inventor. He gets into the rut made by his predecessors and stops off where they have stopped. On the other hand, if he goes in a direction of his own, there are no ruts ahead of him; nothing in fact, to obstruct his progress. I have several times made inventions in this manner; then when I have completed them I have read up on the subject. I found my ideas were entirely original, but at the same time the ideas of the other fellows were so good up to a certain point, that I should

have been tempted to follow in their footsteps if I had done any previous reading up.

“Of course the question of natural aptitude enters into the matter, and without it no man can become a star; nevertheless, it is an auxiliary attainment; dogged perseverance is really the quality most to be desired. Dogged perseverance is the keystone to success. In the arts, such as painting, music, poetry, and so forth, a very special temperament may be required, but in the workshop of science men of the sanguine, ‘sandy’ kind come out ahead. The man who keeps at one thing and never minds the clock is always sure to do something. He may miss many social engagements, of course, but his success is assured.

“The history of great Inventors shows that accident has been responsible for many initial ideas. This, however, is not always the case, nor should it be. Given a small amount of aptitude and a large amount of application, any man can enter the business of inventing and make a living scant at first, but more lucrative as he goes along. There are not many who realize what this ‘large amount of application’ really means; the getting up very early, the staying up very late, and the sticking at it, meanwhile, with a vim that can never recognize failure. Men of this kind are sure to succeed. Probably millions of people are dabbling to-day in mechanical inventions of some nature, but the most of it is too spasmodic to count

for much in the long run. They do not keep at it enough. If a business man were to neglect the routine business of his daily work, if he were to go to his office one day or two days in the week and then put the rest off until next Monday, or until some other time when the spirit moved him he would soon have to assign.

“It is just so with invention. You have to pursue it as a business, and even more steadily than the ordinary business. If the young man starts into it with the notion of sitting down and waiting for some grand, good idea to come along, he will get, as they say, very decidedly ‘left.’ Ideas grow upon one. They are a matter of habit just like anything else. If you get into the habit of conceiving good ideas they will grow upon you until you have more than you need.”

We will conclude this part of our subject by quoting a few passages from the interesting work, “Smiles’ Industrial Biography.”

“The beginning of most inventions is very remote. The first idea born in some unknown brain, passes thence into others, and at last comes forth complete after a parturition it may be of centuries. One starts the idea, another develops it, and so on progressively until at last it is worked out in practice; but the first, not less than the last, is entitled to his share of the merit of the invention. Sometimes a more original mind strikes upon some new vein of hidden power and gives a

powerful impetus to the inventive faculties of man, which last through generations. More frequently, however, inventions are not entirely new, but modifications of contrivances previously known, though to a few, and not yet offered into practical use. Glancing back over the history of mechanism, we occasionally hear of an invention seemingly full born, when suddenly it drops out of sight and we hear no more of it for centuries. It is taken up *de novo* by some Inventor stimulated by the needs of his time, and following upon the track he recovers the old foot-marks, follows them up, and completes the work. There is also such a thing as inventions being born before their time; the advanced mind of one generation projecting that which cannot be executed for want of requisite means; but in due process of time it is at length carried out; thus it is that modern Inventors are enabled to effect many objects which their predecessors had tried in vain to accomplish. As Louis Napoleon has said, "the inventions born before their time must remain useless until the arrival of intellects to comprehend them."

The inventions born out of time and before the world could make practical use of them, are so numerous that one is almost disposed to accept the words of Chauncy as true, that "there is nothing but what has once been old;" or as another writer puts it, "there is nothing new, but what has been before known and forgotten;" or in the

words of Solomon, "there is nothing new under the sun." Friar Bacon, who flourished in the Thirteenth Century, seems only to have anticipated, in the following remarkable passage, nearly all that steam could accomplish, as well as the hydraulic engine and the diving bell, though the flying machine remains to be invented. "I will now," says the Friar, "mention some of the wonderful work of art and nature, in which there is nothing of magic, which magic could not perform. Instruments may be made so the largest ships with only one man guiding them, will be carried with greater velocity than if they were full of sailors. Chariots may be constructed that will move with incredible rapidity without the help of animals. Instruments of flying may be formed, in which a man sitting at his ease, and meditating on any subject may bat the air with his artificial wings, after the manner of birds. A small instrument may be fabricated by which one man may draw a thousand men to him by force, and against their will; as also machines which will enable men to walk at the bottom of seas or rivers without danger." It may be well to consider the term "Inventions," for it is an error to suppose that all inventions come within the scope of Patent Law many are quite beyond it. Indeed the Patent Law is restrictive in this respect, that it excludes from its operation all such inventions as are not manufactures, or which do not produce

vendible articles. Thus no purely philosophical discoveries or intangible schemes, ideas, or principle can validly form the subject-matter of a patent; others must be what the laws call subject of invention, and this must be, or result in, something tangible and valuable.



CHAPTER III.

Promoting Inventions.

We have arrived now at that stage when the Patentee may properly consider what are the best means he can adopt to bring a return or to "make money" out of his invention. Occasionally an Inventor may be found who is animated by philanthropic motives or the desire of acquiring fame; but in general in this, as in most other pursuits in life, the chief stimulus to labor and exertion is the hope of acquiring, if not wealth, at least an adequate pecuniary reward.

Disraeli, in one of his works, remarks "that the great secret of success in life is for a man to be ready when his opportunity comes," and this applies with great force to the case of a Patentee. He should be prepared to consider an opportunity and even create one. Improving opportunities is well, but making opportunities is better. Many a man says that he could do something if he only had the opportunity, but the man who is determined to do something will secure the opportunity, even if he has to make it. Bacon says: "A wise man will make more opportunities than he finds."

First of all the Inventor should properly appreciate his position and endeavor to form an accurate estimate of the value of his invention. His posi-

tion, he may bear in mind, is that of a sole proprietor of a valuable property—a property as sacred in the eyes of the law as that of land tenure or any other prospective right—a property capable of being subdivided to an unlimited extent and of yielding returns, not merely remunerative, but absolutely lucrative. His position is similar to that of a man who possesses a rough diamond which needs judicious cutting and polishing; it may be likened to that of the owner of a mine, rich in ore, which awaits the skill and energy of the miner. Always assuming that his invention is really good, he has in his own hands the carving out of his fortune. By the exercise of prudence, by energy, and above all, by means of that individual quality called “tact,” he may attain results beyond even the dreams of avarice; he is, however, in this respect the sole arbitrator of his destiny; he alone is in power to deal with the patent.

When an Inventor has made no arrangements for practically developing his patent or formulated any decided plans for his own course of action, the question inevitably presents itself as soon as his letters patent are received: What course is to be pursued in order to bring the patented conception to a paying basis? The Inventor as a general rule is without the necessary capital to bring about such a condition, and when this is the case, it is absolutely necessary on his part to seek the co-operation of trustworthy capitalists, and this is a

task that cannot be hurriedly or easily accomplished. It takes time and labor to convince others of the value of a new invention and for this reason it is unreasonable to expect an invention to assume paying basis in a short space of time. Inventions of to-day prove no exception to the difficulties which have beset the most valuable discoveries and inventions from time immemorial.

New and valuable inventions do not introduce themselves; every one who has had practical experience will understand this point. An invention may have genuine merit, but people do not run after it. Not only that, they will refuse to adopt it unless it has extraordinary merit, and in some way proven to be of advantage to identify themselves with it. People are suspicious of new devices. The reliability of the new article must be demonstrated by testing it in actual use before it will be generally accepted. Inventions, even of the highest order of merit, frequently have to be forced upon the market, and the Inventor, sooner or later, realizes the fact that the task of personally developing a patent or disposing of it wholly or in part to capitalists will be extremely slow, even with the best management. Bessemer, the Inventor of the process for manufacturing steel, is reported to have said that it took from eight to ten years to get an invention introduced generally, and many patents have expired before they have proven remunerative.

After the invention is made, perfected, and demonstrated to be of value, it must be manufactured on a commercial scale in order to be available and brought to the attention of the appropriate users, or put upon the market. Articles of manufacture must be made in quantities and proper machinery for making them must be supplied. The invention of a new machine requires that the machine be built, and it takes machinery to make a machine, a shop, workmen and materials. And these cost money. It also requires machinery to make an article. One cannot tell whether an invention is really valuable until it is made in a shop and finished. That will insure a recognition of the superior merits claimed over other inventions of similar kind already in use. It is an almost unheard of thing for an Inventor to succeed, commercially, proceeding single-handed; and it seems to be absolutely necessary that the labors of the poor Inventor should be allied with the capital and practical methods of business men co-operating with him in order to bring a patent to a financial success.

Especially is this the case in view of the fact that many meritorious inventions are quite as likely to be made by one class of Inventors as another, some of the best of them being produced by Inventors who have not only little or no experience in patent practice, but who are too poor to develop their inventions.

Before he can form an accurate opinion of the value of the invention, he should endeavor to ascertain the state of the trade to which the invention belongs and the effects likely to follow from the adoption of the discovery. If the subject be altogether new, he should endeavor to ascertain the probable use it could be applied to, or the consumption likely to follow. If there ever have been patents for analogous subjects, the dealing with them should be inquired into and the results which flowed from them considered. Before deciding upon any particular course of action, a Patentee, should, as it were, scan the horizon and take an observation of the latitude and longitude of trade. Was there, for example, a pressing demand for some new manufacture or appliance, as there is at the present time for appliances for raising sunken vessels? or as there were a few years ago for a covering for submarine telegraphs? or recently for tramways? or further back for rifles? or still further back for gold-washing and crushing machinery? If there be such a demand and there seems to be almost always some public want, then such a circumstance materially enhances the value of a patent which supplies the desired object. Such an opportunity to a Patentee who knows how to use it is a golden one. The Patentee should also exercise his prophetic vision and forecast what is likely to be required. This is only doing what every successful merchant does. Peabody ac-

quired his wealth by speculating on the probabilities of commercial alterations.

Any lengthened continuance of manufacturing prosperity must result in a dearth of labor, hence labor-saving machinery will come into greater request. The opening of the Suez Canal has increased the use of steam vessels and rendered necessary improved modes of propelling and steering them.

The Patentee should not accept the first proposals made to him without due deliberation, for it is a great misfortune to begin trammelled by onerous conditions, or to part with a prospective fortune for a mere pittance. Value is a relative term and an unknown quantity, therefore no law can be laid down for the guidance of the Patentee; he can only arrive at an approximation under the best of circumstances, and must frequently be contented with a speculative bid. It is needless to point out that money value of a patent for a good improvement in the manufacture of steel, or iron, is likely to be in a higher ratio than that of an improvement, however good in itself in articles of limited use.

The judicious Patentee, who is persuaded from safe deductions that his invention is sound and intrinsically good, will be slow to dispose of his interest for a small and inadequate consideration, simply because he has not put it into practical operation; but will rather bide his time when he

may secure a satisfactory, if not an adequate price. If, as unfortunately is sometimes the case, he be pressed by straightened circumstances to accept whatever terms he can procure, he should endeavor to retain the same interest in the patent, which may ultimately make him a return for his talent.

There may be said to be four ways of commonly dealing with a patent. The first mode is for the Patentee himself to put the invention into practical operation; the second plan is to grant licenses for its use; the third is to dispose of the whole right; and the fourth is to divide the right into shares and dispose of part of them; but the powers and privileges of the grant permit of a variety of dealings. Unquestionably the preferable mode is for the Patentee himself, if possible, to initiate the principle of the invention into the market. If he possesses the requisite capital and knowledge of the trade, he can introduce it more advantageously to public notice than any other person, because he can best combat the difficulties which are likely to spring up and soften down the asperities which generally are existed by the appearance of a new competitor for public favor. Fortunate is the Patentee who is able to manufacture his patented articles without extraneous assistance—who can appeal to the public at large, who, in the long run, adopt whatever is practically useful. Not a few novices in patents fall into the error of demanding exorbitant prices for

their merchandise; they assert that there would be little advantage in a patent did it not enable the owner to gain high profits. Certainly, a higher profit than is usually made in trade is due to the Patentee who pays for his privileges and who is to incur heavy expenses in experiments, models, and trials. But sound policy will dictate moderation, and the Patentee will find it to his real interest to cultivate an extensive trade at fair profits and reasonable prices. The effect of placing too high a price upon the articles is to prevent trial of them, and it should be the object of the Patentee to create, by all means in his power, a speedy demand.

When the sewing machine was first made in England, there was so much prejudice against it in some quarters, and so much indifference in others, that the Patentee did not sell one machine in a month. He also required too high a price, viz., £30 and £35 each. To secure the demand he lent machines to sundry mantle makers who were the first to employ them. So soon as the two or three of these makers had taught a few girls how to use the machine they took work from the city warehouseman at such low prices that their competitors who employed hand labor were compelled, in self-defence, to acquire machines. The Patentee then began to sell one machine in a month, and shortly after that one a week, and as the public discovered that the machine work was neater in appearance than the hand-sewn and

stood the test of wear equally well, the sale increased one a day, when the Patentee thought he was making his fortune. He then reduced the price and increased the sale to ten and twelve machines per diem; and considering that he sold most of them at £15, although they did not cost £5 each, he was right then in thinking that he was making a fortune.

High prices invariably excite competition, infringement, and evasion, just as high duties involve smuggling. The frightful litigation respecting sewing machines, which kept before the courts of law for years, was caused by the excessively high prices required by Patentees in the first instance, and there is little doubt they would have been richer in the end if they had commenced with moderate prices, notwithstanding that many of them recovered large amounts as damages at law. It need scarcely be said the Patentee must not hide his light under a bushel. He must constantly keep his name before the public. In these times, advertising is all powerful, and the Patentee must not fail in this respect.

In addition to direct advertising, which, to be permanently beneficial, must be systematically and constantly adopted, he may avail himself of that indirect mode of advertising which the Press can offer him in the shape of articles and notices. If his invention be of a scientific character, he has ample means for effecting this object, for never

were there so many excellent journals published as there are now.

The following article taken from *Printers' Ink* (which by the way is of inestimable value to all Inventors who are interested in advertising their inventions), gives a fair sample of business tact pursued by an Inventor in advertising his inventions :

A GYMNASTIC CLUB.

HOW AN ORIGINAL ADVERTISER INTRODUCES INVENTIONS.

"The Hercules' " strong arm, advertising a new form of gymnastic club, is seen from time to time in the magazines at the top of a modest twenty-eight lines—occasionally larger. The advertiser is Mr. Ralph R. Gibson. I found him at the top of the building No. 16 South street, Boston, in the act of opening letters from a pile on the table at which he was seated.

"The manufacture of knit goods has been my business for twenty years," he said. "I invented the club three years ago, and have given to it what time I could spare. I'm not a man who believes in neglecting his meals and in working eighteen hours a day. I have the parts of the clubs made outside and assemble them here. I prepare my circulars, write my advertisements and answer the letters. I place the ads through Pettingill & Co.

Lots of people wonder why I don't advertise more extensively and give all my time to the manufacture and pushing of the club, but I'm satisfied to work in my own way. Without much effort the club has made surprising progress, and I don't worry about its future. I know it's a good thing, because hundreds of responsible people tell me so, and because I've got my own muscle by its use."

To prove this Mr. Gibson placed a fifty-pound dumbbell on the table, sat in a chair at the side of the table and, using his elbow as a hinge, raised the bell through ninety degrees, so that his forearm was upright. I don't believe one man in a thousand could do that. I tried it, and could neither budge it nor feel that I was getting the slightest leverage on it.

"I got the idea by grasping an old-fashioned chair by the top-piece of the back and finding, by raising the chair, that I had a leverage which exercised the muscles of the arm. My club is on the principle. It's so simple that everybody wonders why it was not thought of before. It's the simple things, you know, that make money. I found that I could get quick results by the use of the club instead of waiting a long time as with Indian clubs and dumbbells, and then I knew I had a good thing to advertise. I dropped in to see Charles H. Taylor, Jr., of the *Boston Globe*. I showed him the club, and he pulled out \$2.75 and said he wanted it. The next day I thought

I'd put an ad in the *Globe*, and went in again to see young Mr. Taylor. He said :

"Don't you do it. You'll lose your money. The people of New England won't buy a pig in a bag."

"They'll buy my club," says I.

"I'll bet you \$10 you don't get twenty-five answers," says he.

"Nevertheless I put the ad in the *Globe*. It was three and one-half inches deep and had the cut of the strong right arm in it, just like the ads I am now using. I put the ad in for only one issue. Four days later I saw Mr. Taylor again.

"Mr. Taylor", says I, "I'm sorry I didn't take your bet. I've got 175 letters during the past four days".

"I wouldn't have believed it", said he. "Have you sold any clubs?"

"Yes, enough to pay for the ad two or three times over."

"He was astonished. Altogether I received 300 replies from that ad. The people not only bought a pig in a bag, but they came to Boston and walked up these stairs to see me. Physical instructors and professors of anatomy came. Even now they come and tell me that I ought to put the names of the muscles in my directions, and tell how to enlarge them in scientific language. I don't do anything of the sort, but write my directions in words that a child has no difficulty in understanding."

"What other mediums have you tried?"

"Very few. I'm now using *McClure's*, the *Strand*, *Argosy*, *Puritan* and *Quaker* of New York, and the *Alkaloidal Clinic*, of Chicago. It's easy to tell now just what each medium will do. Small ads last winter in two of the magazines kept me as busy as I wanted to be, and I kept out of everything else. My second ad in *McClure's*, which is just the same as the one I'm running now, brought me over 1,000 answers in one month. They told me it broke the record for the *Argosy* not only in letters, but in money. I tried recently an ad on the back cover of the *Quaker*. There was 350 quick replies, and I wished to keep the ad in the same place for six months, but forgot to write to the advertising man, and this month I see it has been taken out. I can't get that position again for a long time. One year ago this October I tried a two inch ad in the *New York Journal*, morning edition. I received 100 replies and sold a lot of clubs. The ad cost \$10, and I got from \$150 to \$200 out of it. I tried the Sunday issue of the *Journal*, but got only ten answers. That experience convinced me that Sunday newspaper advertising is not the proper thing for me. The men who would use my club don't read the Sunday newspapers long enough or carefully enough to see my ad. I index some of my ads by varying the letter after the post office box number, but other ads I don't bother about. Usually I can tell

where the ad was seen by what the writers say. I don't ask them to send cash, you see, but only to write for pamphlet. In the pamphlet they see the illustration of the club and learn all about it for the first time, finally reading testimonials from those who have used it. I never solicited a testimonial, but have received hundreds, the athletes headed by Fitzsimmons, and the business and professional class by men whom everybody who reads the newspapers knows. I don't believe in attempting to describe the club in the ad. It would take too much room, and then not be half done. My purpose with the ad is to tell merely that I am able to give muscle, strength and health surprisingly quick by a new gymnastic club. Just how it's done is a secret until the man or woman gets the pamphlet, and there he or she gets what I consider an unanswerable argument, telling all the whys and wherefores."

"What is the proportion of replies and orders from women?"

"About one in fifty. However, this month I'm in *The Puritan*, which, although it is aimed at the ladies, is so attractively gotten up that the man of the household is almost sure to look at it and read the advertisements. *The Puritan* is one of the widely circulated New York publications. Advertise what you've got in New York, and it will be talked about everywhere. People in remote places write and tell me that they are sure they

will be pleased, because anything satisfactory to the New York or Boston market will satisfy them."

"Did you ever try advertising by circular?"

"No. What's the use of sending a circular to a man when you are not sure that he wants the article advertised? In other words, what's the use of my sending what I've got to sell to a man when he doesn't want it? I was surprised once by a circular sent at random. My wife was reading out of the paper one Sunday afternoon, at home, the name of a rich society man who was spoken of as just about taking up his residence for the summer at Newport, and I sent him a pamphlet. It caught him for four of my highest-priced mahogany clubs. It was a matter of luck, that's all."

Of course Mr. Gibson is an enthusiastic believer in advertising. "My friends are surprised when I tell them what a little ad costs, and say that they would just as soon take the money and throw it into the fire. I would have had my first lot of clubs on my hands now if I had not advertised. The first Summer, with no advertising, my sales were \$5 a week. This Summer the sales have been averaging \$150 a week, although I stopped advertising in May. I began advertising with the Fall, because by far the greater bulk of the business is done through the Winter months, when exercise out of doors is not so common. My sales now average \$50 a day. But to advertise successfully you must have a thing you can back up. No

buyer of my club ever wrote to complain that he was disappointed."

When I was turning to go Mr. Gibson said: "Let me tell you something more about my quarter-page ad this month in *The Puritan*. Because it is a lady's periodical I was advised by all my business friends that the ad would not pay. It is only the third day of October, but I believe that I am going to get larger returns than from any other ad I ever tried. You know *The Puritan* is sent to subscribers and is on the news stands before the first day of the month. Before October first I had received replies and sold clubs enough to get back the cost of that October ad. I was sure it would be a winner when the advertising man told me it would not. When I go contrary to them I get results," and Mr. Gibson laughed.

There is a large class, however, who cannot themselves bring out their inventions, and who consequently must sell the whole or a portion of their rights, or seek for purchasers of licenses. In most of the staple manufacturers, such as iron smelting, steel making, sugar refining, cotton, wool, or flax spinning and weaving, larger returns will be obtained by granting licenses than by a sale to any one firm. Licenses under Letters-Patent may be exclusive, limited, and general. An exclusive license amounts almost to a cession of the patent, and that only to be granted under terms nearly equivalent to its purchase. Where a

royalty is covenanted to be paid, a stipulation should be made for a fixed minimum amount per annum, otherwise the licensee can only be held liable to pay on the actual manufacture, and he may think proper to cease manufacturing. Probably all license deeds reserving royalties should contain a stipulation as to net amount of royalty to be paid annually, and in default of payment of that sum the license should revert to the Patentee. Whenever, practicable, such deed should provide that the articles made under the license should bear an engraved numbered plate, supplied by the Patentee, by which genuineness is insured. The Patentee is saved the trouble of inspecting books, and has a check in his own custody on the dealings under the license.

As a means of obtaining capital for the development of inventions, it is a good plan to divide the patent into shares of say eight, sixteen, or thirty-two; the owner retains a quarter or half share and finds less difficulty in raising capital from a few persons in small sums, than a large amount from one or two. These shareholders or joint proprietors should acquire no right to work the patent, but simply receive their share of any profit which may arise from its being worked by the Patentee, or from licenses, or from the sale of the privilege. In this manner those much-envied and sought-for individuals called capitalists may be induced to invest their spare funds in aid of poor Inventors

to mutual advantage. All assignments and deeds relating in any way to dealings with patents to take legal effect, must be recorded in the Office of the Commissioner of Patents.

It may be asked what will be the best mode to adopt to dispose of shares or licenses, or indeed any interest under the patent? Since the mountain will not come to Mahomet, he must go to the mountain. Capital will not in general go in search of the Inventor. He must therefore go in search of capital. The Germans have a wise saying to the effect that "roasted pigeons will not fly into your mouth."

Whatever is good or valuable or excellent must be sought for early and late, in season and out of season, and the Inventor who seeks capital must gird up his loins and vigorously set out on his search. Before doing so, he should provide himself with the best made model or specimen which his means will allow. Inventors often fall into error in this respect. They content themselves with an illy-constructed clause, defected model, most crude and paltry exhibit, imperfect samples which show defects rather than advantages. If to this be added a dirty drawing and a written prospectus, the picture of the equipment of many Inventors on their journey in search of capital will be complete. With this drawing under the arm and unique model or specimen in their pocket, they journey on, sometimes for months, and some-

times for years, but seldom without accomplishing their object in the long run, although by better management they might considerably shorten the term of their pilgrimage. They seem to have but one idea and that is to benefit the world by the introduction of their invention, until which event occurs, mankind, in their opinion, will remain in a state of semi-barbarism. They would, however, greatly facilitate the acquisition of their desires by devoting more attention to the preparation of whatever improvement necessary to induce men to form a favorable opinion of the invention.

A pleasing model of the character in detail, made to a scale and well finished, serves to persuade and to silence objection; and if drawings are shown, they should be neat and the prospectus or description always printed. When it is sought to interest some person with capital at hand to take a share with a view to putting the invention into operation or to enable a patent to be procured, the search may be made in any direction. Perhaps the most likely to aid are those connected in any way with the trade affected by the subject-matter of the invention. Capital is often advanced by clergymen, ladies and retired tradesmen, while others find patrons in politicians and some city magnates.

In short, if capital only be required, the ways and means for acquiring it are numerous and varied, but when the Patentees seeks to grant

licenses to the trade, the sphere of operations is more limited. In the first place, until actual practice has taken place, there will be little or no chance of inducing manufacturers to take licenses. The first object should be to induce some one, on payment of a nominal royalty, to commence manufacturing, and if the results are satisfactory, the area of operations may be extended. The trade should be addressed and canvassed personally, if possible, or by fitting representative; and this, time after time, until some tangible result follows.

The Patentee who desires to place his patent to advantage must, if it relates to cotton manufactures, visit a city in New England; if relating to iron or steel he must go to Pittsburg or some other place where such materials are manufactured.

The Patentee who is intent upon and determines to carry out his invention, will not fail to visit personally the largest manufacturing houses, and in general will not visit them in vain. Although he may be a stranger and unacquainted with the details of the trade, if he possesses a clear head and a practical invention, he will meet with courteous attention and carry his point.

We have frequently witnessed the successful manner in which American Patentees dispose of their inventions in England. They literally go and see and conquer all difficulties, They usually go well primed. They take with them machines which will work, or a dozen rifles which will shoot

with accuracy. They proceed to visit the center of trade they wish to deal with, and by perseverance, energy, and tact they succeed in accomplishing their object.

The value of foreign patents depends generally much on the United States patent, although instances are not wanting of independent value. If practicable, the Patentee should personally visit some of the more important capitals, taking with him all that may be requisite to convey an accurate knowledge and a favorable impression to other people. If he be fortunate enough to acquire fame for his invention in the United States, he will experience little or no difficulty in disposing of his foreign patents.



CHAPTER IV.

Disposing of Inventions.

Having thus endeavored to give a general outline of the various steps in the development of the invention from its conception in the brain of the Inventor to its completion and materialization and protection under the patent laws, we will now take up separately and carefully consider the various modes before mentioned of "How to Make Money by Invention." As stated in the preceding chapter these modes may be classified as follows :

1. Patentee himself put the invention into practical operation.
2. Grant licenses for its use.
3. Dispose of the whole right.
4. Divide into shares and dispose of part or all of them.

Accepting this classification as embracing substantially all of the usual modes of disposition of patent rights. We will proceed to consider the first *i. e.* "The Patentee himself put the invention into practical operation."

In order to accomplish this as has heretofore been pointed out, it is necessary that the Patentee have capital. The amount necessary depending altogether upon the nature of the invention.

If the device is simple in its construction and intended for general use, a number should be made, and if possible they should be sold to the most prominent persons at hand who would have use for them. After these persons have used the device the Inventor should visit them in person and ask them to give him written testimonials indorsing the article and setting forth its advantages. In some instances the Inventor may have difficulty in getting persons of prominence to give such testimonials, but by exercising a little diplomacy and always presenting the facts in such forms as to point out the great good which would result from the general introduction of the invention, such testimonials can many times be secured. Always get such testimonials on the printed letter heads of the person giving the indorsement should he have such letter heads, and it might be well to prepare before hand a suitable outline of such a letter as you may judge he would give. Then let him copy this outline and make any alterations or additions that he may deem fitting. After several such testimonial letters are obtained have them printed in a neat small circular. In this circular you should give a clear and concise description of the article together with clear cuts or pictures showing the same. The price of the article should be stated and if the device is not of a perishable nature the statement should be boldly made and strictly adhered to that if the article is not satis-

factory the purchaser's money will be refunded. Too much care cannot be taken with the printed matter and in many cases it would be advisable to employ a competent person to prepare such matter. Neat letter heads should be printed, also envelopes and labels, etc.

The circulars, together with explanatory personal letters (preferably typewritten) should be sent to other probable purchasers and at the same time a personal canvass should be vigorously pursued. In this way the Inventor, without going to a very great expense, can gain some kind of an idea as to the reception his invention is to meet with at the hands of the public. If the results of the steps thus taken should be profitable or bid fair to eventually afford a profit, the Inventor should not permit the hope of great and immediate gain to overcome his good judgment. He should exercise all of his energy and manifest in every possible way his enthusiasm in his invention, but in the expenditure of money he should be extremely cautious, and ever bear in mind that for the present at least he is simply feeling the pulse of the public, and before becoming heavily involved it would be well to wait and consider. In other words, the Inventor must use his best business judgment the same as he would if he were engaged in any mercantile trade. If things are promising, a little newspaper advertising should be used, and as the sales increase this may also

be increased. As in the circulars great care should be taken in the preparation of the newspaper advertising and also in selecting the papers to be used. On this subject it is always well to consult some advertising agent, if one is located within reach. Thus by proceeding cautiously, one step at a time, a lucrative business can eventually be built up and a business that will be practically a monopoly.

In order to get an article introduced it is sometimes necessary to give them away at first. This method of advertising must not be indiscriminately followed, but in some instances it has proved profitable. Not many years ago a manufacturer attempted to put on the market a new food cereal. He spent hundreds of thousands of dollars in advertising it, but without any great amount of success. Some of the people who read the advertisements bought his staple and liked it, and bought more. But the great mass, the millions whom he most wished to reach, did not buy it, because they did not know of it.

One day the manufacturer determined to try a new method. That was, to distribute an immense number of packages of his cereal all over the country. His idea was if people once tried it they would come to buy it, and that his sales would enormously increase. He is a millionaire a dozen times over now, and when he tried this he was on the verge of bankruptcy. The newspapers can

also be used for free reading notices. In the smaller towns throughout the country the local newspaper publishers are eager to print all of the news, and when one of the residents of the town gets a patent these publishers will be only too glad to print news articles about the invention, and all of this goes to advertise the invention. In fact, it is the very best kind of advertising, and it should be obtained even if the publisher should require pay for it, for the chances are that other newspapers will copy the article and thus spread the news of the invention broadcast.

Several years ago a man in a little town in Iowa obtained a patent for a wagon body. The invention resided mostly in the peculiar formations of the irons holding the wooden sides of the body in place. He had a few of these irons cast and got up circulars describing how the boards should be cut and placed in the irons. He also had pictures of the body completed and of the irons, etc. His circular was so complete that a farmer could buy the irons and make the wagon body himself on a rainy day when he could not work in the field. The Inventor was himself a farmer and sold a few sets of irons to his neighbors. From this humble beginning he is to-day making more by selling his irons than he is from his farm of over 1,000 acres, in fact he has from the proceeds of his invention paid off a heavy mortgage on his farm and is at present considering the advisability of building a

factory on his own land. The desire to succeed by inventing is stimulated by the success of those who do invent. If we see a man who used to work fifteen hours a day for a modest living build a house in the best part of town and buy diamonds for his wife and horses for himself, we naturally wonder "where he got it." When we learn that it came from successfully handling his patented invention we feel as though we should use our best efforts to make money from our own inventions; and this can be done, for what one man can accomplish can be done as well by another.



CHAPTER V.

Granting Licenses.

Any conveyance of a right under a patent, which does not amount to an assignment or sale, is a license. It is a license if it does not convey the entire and unqualified monopoly, or an undivided interest therein, throughout the particular territory to which it refers. The following have been held to constitute licenses only. An exclusive right to make and sell, but not to use; an exclusive right to make and use, but not sell; an exclusive right to use and sell, but not to make; and an exclusive right to make, to use and to sell to be used for certain purposes, but for no other. The right to manufacture, the right to sell and the right to use, are each substantive rights and may be granted separately by the Patentee.

As an example of the first form of license *i. e.* an exclusive right to make and sell, but not to use, the following is given. The Patentee of a machine for grinding and polishing plate glass licenses a manufacturer to make and sell the machines, but forbids him from using the machines, reserving this right to the purchasers. As it is apparent that extensive use of such machines would result in keen competition between the purchasers, and

the use of the machines by the manufacturer would give him an unfair advantage over the purchasers and this would discourage them, the result being that they would refuse to buy the machines, thus cutting out the Inventors' profits.

This form of license however is very unpopular for many reasons and can only be used to advantage in a very limited number of inventions. As an example of the second form; *i. e.*, An exclusive right to make and use, but not to sell, the following is given: The Patentee of a brick kiln licenses a brick manufacturer to make and use his brick kiln, but prohibits him from selling any of them. This form of license can be used to advantage in many of the larger inventions of a nature as that above mentioned. As an example of the third form; *i. e.*, an exclusive right to use and sell, but not to make; the following is given: The Patentee of a cut-off for cisterns travels through a State and sells to a tinner in each county the exclusive right to use and sell, but reserves to himself the right to make. Thus the tinner must buy of the Patentee. The tinner having the exclusive right to sell in his county, and he can also use. This is a very advantageous form to use as there are many inventions that can be handled in this way. The Patentee receiving anywhere from \$100 to \$500 per county and then making a fair profit on each article sold. Such inventions as churns, farm fences and gates, and water cut-offs

and troughs, etc., being especially adapted for profitable handling under this form.

As an example of the fourth form *i. e.*, an exclusive right to make, to use, and to sell to be used for certain purposes, but for no other, the following is given: The Patentee of a machine for making gas grants a person exclusive right to make, to use and sell the machines to be used for lighting railroad cars alone, reserving to himself the rights to make, to use and to sell the machines to be used for other purposes, or selling the rights for other purposes to other persons.

To accomplish these transactions the Inventor must in all instances be prepared to demonstrate the feasibility of his invention. He must show to the purchaser the extent of the field, and present to him the figures showing his profits and chances for gain by his labor and investment. To do this, good models must be provided, or better still the actual working machines. The purchaser must be seen in person and convinced by logical arguments. To reach the purchasers in many instances is a difficult job, but by perseverance and earnest solicitation this can be overcome. The names of probable purchasers can many times be obtained from the business directories of the towns and cities, and when one possible buyer is interested through correspondence the Patentee should lose no time in going to him in person and show his invention.

CHAPTER VI.

Dispose of the Whole Right.

This must be done by assignment, sale, or trade. To accomplish this it is also necessary to convince the probable purchaser that there is money in invention for him. When a manufacturer or other person is convinced and he has the money it is an easy thing to consummate the sale. The first thing for the Inventor to ascertain is the financial condition of the probable buyer. This can be gotten at in many ways. Or the Patentee may organize a stock company under the laws of any State and sell the patent to the company. Or if the purchaser is in possession of property that the Patentee could use to advantage a trade on these lines may be accomplished. By this last method Patentees have often acquired farms or comfortable homes in exchange for these patents.

Divide the Patent into Shares and Dispose of Part or All.

Of all of the modes heretofore treated this is probably the easiest, for the mere fact that the Patentee is disposed to retain an interest in his patent himself inspires confidence in the purchasers. The patent may be divided in any number of shares, and these shares sold to different

persons, the Patentee possessing them all until sold. This can be done even before the patent is granted and while the application is pending before the Patent Office. In this way the Patentee can raise sufficient funds to obtain his patent, build his models or machines, and have his printing, etc., done. Even after these shares have been sold, and should the shareholders be in a position themselves to make a favorable disposition of their shares, this can be accomplished by calling a meeting of the shareholders and agreeing upon a certain sum in exchange for the entire patent. After such a sale is made the proceeds are divided among the shareholders in proportion to their respective interests. As an example of the above, a Patentee decides to divide his patent into 100 shares. These he sells to any who will buy at from \$25 to \$50 or \$100 each, according to the nature of the invention and its probable usefulness. He thus realizes some money and at the same time is interested in the patent. Each person who holds a share is just as much interested and will do all in his power to make a profitable disposition of his holdings. Thus the Inventor is assisted financially and in fact, and thus assisted it is but reasonable to suppose that he eventually will make more profit from his invention.

In fact there are many, many ways in which patents may be handled to be made profitable to the Patentees. It requires some study and a defi-

nite plan of procedure, these together with that greatest of all virtues, perseverance, will render profitable to a limited degree at least the most unpromising and prejudiced invention.

In conclusion to properly set forth an invention to a manufacturer or purchaser it is essential :

1st—To show its advantages over well-known devices in the art to which it appertains.

2d—Its cost; based if possible, on experience, or by quotations given by reasonable parties for its production by the dozen, hundred, gross or thousand, as the case may be.

3d—The profits; manufacturer's, wholesaler's and retailer's.

4th—The market to be supplied. This is determined according to the nature of the invention. If it is an invention useful to both sexes, children and adults, its market will be the whole population of the United States (about seventy million souls). If useful to any one of the classes, viz: adult males, adult females, male children, female children, alone, the market will be about one-fourth the entire population, and if useful in every family, about one-fifth the entire population, the average family consisting of five persons.

As the United States Census Reports contain full statistics of the different trades, the number of any distinct class can be readily ascertained. In fact the amount of business in most trades can be taken from the Census Reports.

5th—The price to be asked. This must be ascertained by a careful consideration of the above items.

6th—When manufactured by the Patentee and sold to dealers or large consumers, an important item is its weight and displacement; showing the number that can be shipped per hundred-weight or packed within a standard-sized freight car.

Having endeavored to give the best possible advice to Patentees concerning the successful promotion of their inventions; and with an earnest effort to encourage these deserving persons, it is the sincere hope of the author that they may glean many grains of gold from the matter herein contained.



“Let Klondyke mines to others go, with all their fabled
ore,
Let others golden fortune seek upon the Yukon’s shore,
I know a mine that holds for me a surer vein of gold
Than any Klondyke ‘placer,’ with its hunger and its cold.

“One need not take his life in hand to win my store of
pelf,
One need not elbow others to advance the course of self,
One need not travel far from home to suffer and to freeze,
To win the fortune I can gain in quiet and in ease.

“One need not sleep on adamant exposed to storm and
wind,
And delve into mother earth for what he’ll chance to find.
One need not risk the chance of thirst, of famine, and of
woe,
To gain the treasures that ARE IN this spot which I know.

“And so I’ll join you never in your fortune-seeking train,
And in the end I’ll have far more than half of you will
gain.
I’ll never scar sweet Nature’s face for millions—largely
naught,
But work the mine she gave me, as I scratch my head for
thought.”

COST OF PATENT.

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Upon payment of the above amount we immediately begin the preparation of the Official Drawings and specification which will fully and clearly illustrate and describe all the new and patentable features and include the claims of the invention. The drawing and specification is then sent to the inventor.

If after a careful examination of the drawings and specification by the inventor, they meet with his full approval in every respect, he should return them to us with \$30.00. Of this amount \$15 will be for the First Government Fee for filing the application in the Patent Office, and \$15 will be the balance of our fee. As soon as the inventor returns to us the drawing and specification and the above amount, we will immediately file them in the Patent Office and send the inventor the Government filing receipt.

The inventor can then manufacture and sell his article, machine or device and mark it "Patent Applied For", or "Patent Pending," and can sell County or State Rights under his application or can sell the whole or part interest in his invention.

These costs relate to an ordinary case capable of being properly illustrated by a single sheet of Official Patent Drawing. Whenever the case is complicated and requires more than one sheet of Official Patent Drawings to clearly and properly illustrate the invention, the labor in preparing the Legal Patent Specifications is correspondingly increased on account of each extra sheet of Official Patent Drawing, and the costs are slightly increased.

No other fee will be required for Prosecuting the application before the Primary Examiner of the Patent Office. After the application for patent is allowed the inventor can pay the Final Government Fee of \$20 into the Patent Office at any time within six months.

For Further Information Send For Our Circular.

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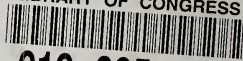
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